

Amendments to the Claims

1. **(Currently Amended)** An optical disc which is readable by a reproducing apparatus that preliminarily reads a table and performs a random access reproduction of a video object by referring to the table, the optical disk including a data area, a time map area, and a program chain area, wherein

the data area records has recorded therein a video object that includes a plurality of data units, each of which contains at least one picture,

the time map area records a has recorded therein the table showing recording addresses of data units, the recording addresses corresponding to a plurality of reproduction times that belong to a period during which the video object is reproduced, each of the data units containing a picture to be reproduced at a corresponding one of the plurality of reproduction times, and

the program chain area records has recorded therein a plurality of sets of cell information, each of which includes a start time and an end time which are used to identify a reproduction section in the video object, the plurality of sets of cell information being recorded in correspondence with reproduction orders.

2. **(Currently Amended)** The optical disc of Claim 1, wherein

the table further records has recorded therein difference times, each of which corresponds to one of the plurality of reproduction times and is a difference between the one of the plurality of reproduction times and a reproduction time of the a first picture of a data unit that includes a picture to be reproduced at the one of the plurality of reproduction times.

3. **(Currently Amended)** A recording apparatus for recording video data onto an optical disc, comprising:

an input unit operable to receive input video data to be recorded;

a compressing unit operable to compress the input video data and generate a video object containing a plurality of data units;

a writing unit operable to write data onto the optical disc; and

a control unit operable to control the writing unit, wherein

the control unit is operable to

- (a) ~~controls~~ control the writing unit to write the video object onto ~~the~~ a data area of the optical disc,
- (b) ~~generates~~ generate a table showing recording addresses of data units, the recording addresses corresponding to a plurality of reproduction times that belong to a period during which the video object is reproduced, each of the data units containing a picture to be reproduced at a corresponding one of the plurality of reproduction times,
- (c) ~~controls~~ control the writing unit to write the table into ~~the~~ a time map area of the optical disc,
- (d) ~~generates~~ generate a plurality of sets of cell information, each of which includes a start time and an end time which are used to identify a reproduction section in the video object, and
- (e) ~~controls~~ control the writing unit to write the plurality of sets of cell information onto ~~the~~ a program chain area of the optical disc so as to correspond to reproduction orders.

4. **(Currently Amended)** The recording apparatus of Claim 3, wherein
the table further ~~records~~ has recorded therein difference times, each of which corresponds to one of the plurality of reproduction times and is a difference between the one of the plurality of reproduction times and a reproduction time of ~~the~~ a first picture of a data unit that includes a picture to be reproduced at the one of the plurality of reproduction times.

5. **(Currently Amended)** A recording method for use in a recording apparatus for recording onto an optical disc a video object containing a plurality of data units, each of which contains at least one picture, the recording method comprising ~~the steps of:~~
writing data onto a data area of the optical disc;
generating a table showing recording addresses of data units, the recording addresses corresponding to a plurality of reproduction times that belong to a period during which the video object is reproduced, each of the data units containing a picture to be reproduced at a corresponding one of the plurality of reproduction times;
writing the table onto a time map area of the optical disc;
generating a plurality of sets of cell information, each of which includes a start time and an end time which are used to identify a reproduction section in the video object; and

writing the plurality of sets of cell information onto ~~the~~a program chain area of the optical disc so as to correspond to reproduction orders.

6. (Currently Amended) The recording method of Claim 5, wherein
the table further ~~records~~ has recorded therein difference times, each of which corresponds to one of the plurality of reproduction times and is a difference between the one of the plurality of reproduction times and a reproduction time of ~~the~~a first picture of a data unit that includes a picture to be reproduced at the one of the plurality of reproduction times.

7. (Currently Amended) A reproducing apparatus for reproducing the video object recorded on the optical disc defined in Claim 1, the reproducing apparatus comprising:

a reading unit operable to read data from the optical disc;
a reproducing unit operable to reproduce the video object; and
a control unit operable to control the reading unit and the reproducing unit, wherein the control unit is operable to
(a) ~~receives~~ receive an instruction to reproduce according to the plurality of sets of cell information,
(b) ~~controls~~ control the reading unit to read the table and the plurality of sets of cell information,
(c) ~~refers~~ refer to the read table and ~~identifies~~ identify, for each of the plurality of sets of cell information, a data unit that contains a picture corresponding to the start time and the end time, and
(d) ~~determines~~ determine reproduction sections in accordance with the identified data units and ~~controls~~ control the reading unit and the reproducing unit to reproduce the determined reproduction sections in an order that is determined in accordance with the reproduction orders.

8. (Currently Amended) The reproducing apparatus of Claim 7, wherein
the table further ~~records~~ has recorded therein difference times, each of which corresponds to one of the plurality of reproduction times and is a difference between the one of the plurality of reproduction times and a reproduction time of ~~the~~a first picture of a data unit that includes a picture to be reproduced at the one of the plurality of reproduction times.

9. **(Currently Amended)** A reproduction method for use in a reproducing apparatus that includes (a) a reading unit operable to read data from the optical disc defined in Claim 1 and (b) a reproducing unit operable to reproduce the video object, the reproduction method comprising the steps of:

receiving an instruction to reproduce according to the plurality of sets of cell information, controlling the reading unit to read the table and the plurality of sets of cell information,

referring to the read table and identifying, for each of the plurality of sets of cell information, a data unit that contains a picture corresponding to the start time and the end time, and

determining reproduction sections in accordance with the identified data units and controlling the reading unit and the reproducing unit to reproduce the determined reproduction sections in an order that is determined in accordance with the reproduction orders.

10. **(Currently Amended)** The reproduction method of Claim 9, wherein the table further ~~records has recorded~~ therein difference times, each of which corresponds to one of the plurality of reproduction times and is a difference between the one of the plurality of reproduction times and a reproduction time of ~~the~~ a first picture of a data unit that includes a picture to be reproduced at the one of the plurality of reproduction times.

11. **(Currently Amended)** A program recorded on a computer-readable recording medium ~~recording a program for use in a recording apparatus that records~~ operable to record onto an optical disc a video object containing a plurality of data units, each of which contains at least one picture, the program allowing the recording apparatus ~~a computer to execute the steps of~~:

writing data onto a data area of the optical disc;

generating a table showing recording addresses of data units, the recording addresses corresponding to a plurality of reproduction times that belong to a period during which the video object is reproduced, each of the data units containing a picture to be reproduced at a corresponding one of the plurality of reproduction times;

writing the table onto a time map area of the optical disc;

generating a plurality of sets of cell information, each of which includes a start time and an end time which are used to identify a reproduction section in the video object; and

writing the plurality of sets of cell information onto ~~the~~ a program chain area of the optical disc so as to correspond to reproduction orders.

12. **(Currently Amended)** ~~The program-computer readable recording medium of Claim 11, wherein~~

~~the table further-records has recorded thereon~~ difference times, each of which corresponds to one of the plurality of reproduction times and is a difference between the one of the plurality of reproduction times and a reproduction time of ~~the~~ a first picture of a data unit that includes a picture to be reproduced at the one of the plurality of reproduction times.

13. **(Currently Amended)** ~~A program recorded on~~ computer-readable recording medium ~~recording a program for use in a reproducing apparatus that includes (a) a reading unit operable to read data from the optical disc defined in Claim 1 and (b) a reproducing unit operable to reproduce the video object, the program allowing the reproducing apparatus-a computer to execute the steps of:~~

receiving an instruction to reproduce according to the plurality of sets of cell information, controlling the reading unit to read the table and the plurality of sets of cell information,

referring to the read table and identifying, for each of the plurality of sets of cell information, a data unit that contains a picture corresponding to the start time and the end time, and

determining reproduction sections in accordance with the identified data units and controlling the reading unit and the reproducing unit to reproduce the determined reproduction sections in an order that is determined in accordance with the reproduction orders.

14. (Currently Amended) The program-computer readable recording medium of Claim 13, wherein

the table further—records has recorded thereon difference times, each of which corresponds to one of the plurality of reproduction times and is a difference between the one of the plurality of reproduction times and a reproduction time of ~~the~~ a first picture of a data unit that includes a picture to be reproduced at the one of the plurality of reproduction times.